Ontario Round Table on Environment and Economy

Table ronde de l'Ontario sur l'environnement et l'économie

Forestry Sectoral Task Force

Draft Report

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92-01417/

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PREFACE

This report is one in a series prepared for the Ontario Round Table on Environment and Economy. The Round Table was established in 1988 by the Government of Ontario to create a sustainable development strategy for the province. The Honourable Ruth Grier, Minister of the Environment, is its Chair.

To assist in the creation of a sustainable development strategy, the Round Table established six task forces responsible for the Agriculture and Food, Energy and Minerals, Forestry, Manufacturing, Transportation, and Urban Development and Commerce sectors. It also set up a Native People's Circle to provide the Aboriginal perspective on sustainable development.

The sectoral task forces were charged with reporting to the Round Table on how best to begin to achieve sustainability in each sector within the context of the six principles set out by the Round Table in its **Challenge Paper**. These are:

- anticipation and prevention of environmental problems;
- the use of full cost accounting;
- informed decision-making which reflects environmental impacts and long term goals;
- living of the interest and reserving our "natural capital";
- quality over quantity; and
- respect for nature and the rights of future generations.

The Round Table also asked the task forces to consult with stakeholders in developing their overall strategy for sustainable development. Through a combination of research and formal and informal meetings with stakeholders, the task forces and the Native Circle have documented the state of each sector and the options and obstacles to sustainability, as well as their recommendations for action.

The sectoral task force reports will be forwarded to the Ontario Round Table on Environment and Economy. The final recommendations will be considered by the Round Table as it prepares a Provincial strategy for sustainable development.

November 1991

To the Reader:

The Forestry Sector Task Force was set up to examine the forestry sector and to make recommendations on implementing a sustainable development strategy to the Ontario Round Table on Environment and Economy. The members of the Task Force are:

Chair: **John Naysmith**, Director, School of Forestry, Lakehead University
David Balsillie, Assistant Deputy Minister, Policy, Ministry of Natural Resources
Ted Boswell, President, E.B. Eddy Forest Products
Robert Cormier, Native Entrepreneur
Brennain Lloyd, Northwatch
Terry Quinney, Ontario Federation of Anglers and Hunters
Michelle Swenarchuk, Canadian Environmental Law Association
Wally Vrooman, Vice-President, Environmental Affairs, Canadian Pacific Forest Products
Jerry Woods, Canadian Paperworkers Union

In this report, the members of the Task Force present their views on ways that government, non-government organizations, and private industry can best promote a healthy environment and economic development in the forestry sector.

The final report will be released for general public comment in January. The Round Table will consider the recommendations contained in the final report in preparing its overall strategy for sustainable development for the Province of Ontario.

Individuals, groups, or organizations who wish to comment on this draft report may do so in writing or in person. For more information please contact the Round Table at (416) 327-2032. For long distance call collect. Please send written comments to:

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INTRODUCTION AND BACKGROUND

In applying to the forest sector the six principles of sustainable development contained in its **Challenge Paper**, the Ontario Round Table on the Environment and Economy identified a number of actions, referred to as 'directions for change' (see below), that it considered necessary to make Ontario's forests sustainable. The mandate of the Forest Sector Task Force was to prepare a report to the Round Table that built on the recommendations of the **Challenge Paper** and identified strategic issues, priority actions and policies for implementing sustainable development in the forest sector.

In carrying out its mandate, the Task Force members benefitted greatly from readily accessible current information, data and views generated by other initiatives such as the ongoing Class Environmental Assessment for Timber Management on Crown Lands in Ontario. The work of the Task Force was further strengthened by the diversity of its membership and the wide ranging views and perspectives it brought to each issue. Underlying its diversity, however, was a fundamental premise -- the forest comprises an array of ecological, social, cultural and economic values, all of which must be taken into account in developing sustainable development strategies for Ontario's forests.

The Task Force identified 20 subject areas ranging from aboriginal issues to research, and biological diversity to industrial effluent. In addressing these issues, the Task Force met 18 times, reviewed releant reference material, debated background papers prepared by members and heard presentations from invited speakers (see Appendix I). In addition, meetings were held with local Round Tables in Hearst, Guelph and Huntsville and the Northwestern Ontario Development Network at its annual meeting in Thunder Bay.

The essence of the Forest Sector Task Force report, including some 50 recommendations, and the view of its members is summed up in the following statement.

SUSTAINABILITY VISION

Being Canadians, we members of the Forest Sector Task Force share the feelings of awe and affection inspired by our forests in most citizens.

We also recognize how significantly we all benefit from the commercial value of Ontario forests.

We recognize that many words have been spoken and written about the need to protect and conserve our forests. Now concrete actions are required.

Our set of "modest proposals" represents a consensus reached among individuals of widely divergent views who have examined forest management holistically. We consider the forest's

place in provincial ecosystems that include soil, vegetative and animal life, air and water. The relationship of human communities to these ecosystems has been reviewed.

Our focus has been to respond to public concerns about visible and contentious environmental impacts of current forest use and to identify actions necessary to ensure renewability (sustainability) of this renewable resource.

It is our sincere wish that actions follow rapidly after these words.

SECTOR OVERVIEW

The forest sector is a critical factor for both the environment and the economy of the Province of Ontario and is therefore of considerable importance to the Provincial Round Table. Three quarters of Ontario is covered by 80 million hectares of forest. The total volume of wood (growing stock) in Ontario is estimated to be 5.1 billion cubic metres. The forests of Ontario also provide shelter to a diversity of wildlife. There are 2900 species of vascular plants, 160 species of fish, 70 species of reptiles and amphibians, 400 species of birds and about 85 species of mammals.

Expanding on environmental issues around the forest: there is a need to protect biodiversity and certain genetic strengths; wildlife habitat must be sustained to provide the milieu for the above-noted species; the forests represent a major carbon sink and source of oxygen through photosynthesis; there is a resurgence of the use of the forest for spiritual renewal; and the forest is a great integrator in an ecosystem sense in a temporal and spatial way.

On the economic side, there are numerous industries which are based on the presence of the forest resource. Ontario produces more than $10 billion worth of forest products annually, and accounts for about 20% of Canada's exports of wood and wood products. The forest products industry is the sixth largest employer among manufacturing industries in Ontario and seventh in terms of sales. Ontario's forest sector spent $2.4 billion in wages and salaries in 1989. In addition to forest products industries, there are other industries which directly or indirectly benefit from the presence and health of the forest. Traditional and eco-tourism rely on the forest experience for a good portion of their sales volume. Wilderness camping, tourism, fishing and hunting are on the increase in this Province. The associated business activity associated with this recreational use of the forest is considerable.

The Government of Ontario owns and manages approximately 84% of the provincial forest land. Therefore, the Round Table, the Government and the citizens of Ontario have a significant stake in how this resource should be managed. The Task Force has focused on a series of issues surrounding the forest. These issues range from local to global in concern. We have attempted to provide recommendations which would assist the Round Table, and subsequently the Government, in guiding the management of the forest resource in a sustainable fashion in order to ensure the future of this resource for subsequent generations.

CHANGES IN PLACE AND UNDERWAY

There is a new recognition that forests must be managed in an ecosystem-based way. There are a number of national and provincial initiatives that are presently underway which are attempting to come to grips with the fact that forests must be managed for more parameters than timber production. These initiatives include:

1. National Round Table on the Environment and Economy, Forest Sector Task Force;

2. Ontario Round Table on the Environment and Economy, Forest Sector Task Force;

3. Five-year Review of the National Forest Strategy;

4. The Class Environmental Assessment for Timber Management on Crown Lands in Ontario;

5. The Ontario Sustainable Forestry Program (audit, policy framework, silviculture, old growth, community forests and private land forestry);

6. Federal Green Plan (model forests, forest research, tree planting).

All these processes appear to be leading to a new management paradigm which will result in a shift from a primary focus on timber to a multiple resource value concept. There is also a new emphasis on broader input into the management of these forests. Such management regimes would involve consultation with and, indeed, responsibility for management to municipalities, labour, aboriginal people and other interest groups.

There is an important new sense of activity around the role of aboriginal groups in the area of land claims and co-management of resources. Both Federal and Provincial Governments are moving to initiate mechanisms to achieve results in these areas. There will therefore be an increasing role of the aboriginal community in the management of the land base and the resources which are associated with that land base.

The Ontario Government is also making progress on related programs such as Endangered Spaces, the Wildlife Strategy and Wetlands Policy. These activities will assist in the preservation of important ecosystems and alter the way that wildlife is managed in this Province.

Despite the fact that numerous activities are presently underway, the Task Force has provided numerous recommendations in areas which continue to require attention and action.

DIRECTIONS FOR CHANGE

In the section "Forest Communities" of the Round Table's *Challenge Paper*, the following directions for change, consistent with the guiding principles, were identified:

- ensuring that growth in managed forests exceeds the amount harvested and lost due to natural disturbances;

- ensuring that the full value of the forest resource and the cost of forest management is reflected in the price of wood and wood products as well as the price of non-consumptive services provides by forest communities;

- increasing public and private funding for research on forest growth, ecology, soils, reforestation, harvesting methods, road construction and site preparation;

- developing new technologies to eliminate toxic compounds in paper inks and to lower the energy requirements for paper de-inking;

- economic diversification of uses and products of Ontario's forests;

- expanding reforestation within agricultural and urban areas;

- maintaining and enhancing the health of forest ecosystems through a diverse gene pool by developing and implementing a plan to conserve and protect endangered spaces and representative habitats;

- encouraging and enhancing the establishment of wood lots and forested areas in southern Ontario;

- reducing use of synthetic pesticides in forestry for tending and site preparation;

- undertaking more detailed surveys of specific forests to obtain a better understanding of these ecosystems;

- developing an improved policy for the size and location of clearcuts;

- eliminating toxic discharges and continually reducing conventional pollution released to the environment;

- increasing the number of trees being planted;

- recycling materials and products which can no longer be reused.

The Task Force narrowed its focus to consideration of the following forestry issues: aboriginal issues in forestry; biological diversity, including wildlife; decision-making and institutional issues; an overview of economics in the forest industry and the economics of non-timber forest values; forest audit; global climate change; harvest methods; inventories and data base; pest management; private forest lands; professional education; protected areas; protecting forest sector employment and sustainability of harvest levels; public information and education; research; solid waste management; tenure; and worker protection and involvement.

1. Aboriginal Issues in Forestry

Members of the Forest Sector Task Force drafted a background paper on aboriginal issues in forestry (Appendix II) and submitted it to the Native Circle of the Round Table for feedback. The draft, with minor changes, was approved unanimously by the Native Circle, although each group formulated its own recommendations. This cooperative process reflects the importance of forestry to aboriginal people and the willingness of other forest users, including government, industry and environmentalists, to work with aboriginal people in resolving outstanding issues such as land claims and an increased share for aboriginal people in the economic benefits derived from the forest.

RECOMMENDATIONS:

The Province of Ontario should encourage the federal government to settle aboriginal land claims promptly.

In making decisions about the use of Crown lands subject to aboriginal claims, the Province of Ontario should consult aboriginal peoples and avoid actions that may prejudice aboriginal rights on these lands.

The forest industry should become a major factor in the successful resolution of aboriginal issues.

Industry, with the support of unions, should provide on-the-job training and encourage aboriginal participation with such culturally supportive programs as seasonal shifts and employment opportunities.

Joint industry/aboriginal economic ventures should be encouraged.

2. Biological Diversity, Including Wildlife

Biodiversity refers to the variety of species (plant and animal) within the biosphere. Its components include the genetic variation within individual species, the different species within a region, and the variety of habitats and ecosystems which support these species.

Population declines and species extinctions of both plants and animals, caused by human activities, are occurring at unprecedented rates because of disappearing or deteriorating habitats. At the same time, there are tremendously important economic, recreational, aesthetic, cultural, educational and scientific values associated with wild species.

Modern forestry activities often involve manipulation of the structure of the forest over space and time. These activities are designed to change the forest vegetation to stands more favourable for fibre production. A contemporary concern is that these activities reduce biodiversity in order to grow commercial timber. Therefore, there is a need to maintain or enhance species representation and genetic pools in our forested lands.

The same trees which provide suitable wood for pulp and saw mills are also providing critical habitat for wildlife species. Ontario is rich in its variety and abundance of native plant and animal species only because of the availability of suitable habitats.

A series of nation-wide surveys indicates that the public feels that wildlife protection and wilderness preservation are important uses of forest land in Canada. There is public concern that current harvest levels and patterns will irrevocably alter wildlife habitat in manner that will result in the loss of habitat, reduction of population numbers and potential loss of species.

Additional public concern regarding wildlife (both plant and animal) and forest industry activities include clearcut size, pesticide spraying, water and air pollution, depletion of soil capital and stand conversion. The relationship between forestry and wildlife is a major subject in the ongoing public hearings of the Class Environmental Assessment for Timber Management on Crown Lands in Ontario.

RECOMMENDATION: Because forest benefits include the variety, distribution and abundance of wildlife and biodiversity, the establishment of explicit quantitative objectives for biodiversity and wildlife habitat should be a high priority in forest management planning.

3. Decision-Making and Institutional Issues

There is a great need to address the availability of non-timber values in our forests. Traditionally, Ontario has defined forestry as timber. Whether inadvertent or intentional, the effect has been to create a dangerously narrow view of the forest's resources and of its management. To achieve more than one goal, a forest must be managed as a whole. There is a high priority to change the goal of management from solely timber production to forest management to produce a specified array of values. The best that can be said for non-timber values at present is that they enter the planning process late and as constraints, never part of the goal. This is a principal problem that must be addressed with respect to achieving sustainability of all forest values.

Management of Ontario's forests should be designed in a manner that displays comprehensive goals and allows public input to the determination of goals.

RECOMMENDATION: In forest management planning a comprehensive set of goals for all forest values should be established that is consistent with natural forest dynamics.

High priority should be given to the use of integration tools such as computerized information systems (eg. Geographic Information Systems and remote sensing) and forecasting models which facilitate the achievement of comprehensive goals in forest management planning.

Periodic statements of the state of the forests in the context of these goals should be made available to the public in a non-technical form.

4. Economics in Forest Industry Sector--An Overview

The overall welfare of Canadians will increasingly depend on our ability to compete in the world marketplace. The forest industry's contribution to Canada's balance of trade exceeds the combined inputs of Canada's other four great resource industries of energy, agriculture, mining and fisheries.

The favourable balance of trade in forest products in Ontario was $2 billion in 1989. The Ontario companies in the sector paid $265 million in corporate taxes that year. It is quite reasonable to describe our social infrastructure, health care delivery systems, old age security programs and great education facilities as part of the fabric woven by the wealth developed in and around Ontario's forests. Maximum economic benefits to Ontario must be extracted from the trees that are cut.

Budgetary deficits add to inflationary pressures, driving short term interest rates up and causing a damaging over-valuation of the Canadian dollar relative to the U.S. dollar. The impact on the forest products sector has been significant. The increased cost of capital and the appreciation of the dollar have harmed the industry's ability to compete.

The most recent statistics from the Forest Sector Advisory Council show that between 1987 and 1989, U.S. producers increased their comparative cost advantage over Canadian suppliers by as much as 12.5% in newsprint and 15.9% in market pulp. During the same period, U.S. producers have increased their share of total North American shipments: in newsprint from 35% to 39%; and in market pulp from 46% to 53%.

Those who have invested to modernize or expand their facilities or develop new products are also being penalized by the burden of significant adverse interest and exchange rate movements.

Ontario's position as an exporter of forest products is declining relative to the rest of the country. In 1986 Ontario's exports of forest products was 20% of the Canadian total, while in 1989 its share had declined to 17%.

The cost of fibre represents a full 40% of the total forest products manufacturing costs. Consequently, comparative world fibre costs are vital to the success of the industry and must be appreciated by all who look to the industry to make a greater contribution.

WORLD FIBRE COSTS 1987
($U.S./b.d.m.t)

	SOFTWOOD	HARDWOOD
Chile	34	
Brazil	38	30
Iberia		47
U.S. South	48	46
Canadian Prairies	49	67
B.C. Interior	57	
ONTARIO	**72**	**69**
Quebec	76	72
U.S. North		60

Note: Costs in the Nordic countries are higher than in Ontario.

Within the context of sustainable development and with full regard for the protection of ecosystems; the Ontario government should maintain its adherence to the "residual value" concept of evaluating its timber resources as the basis of all Crown charges on industrial timber. This system of valuation permits a fair comparison of the value of a standing tree in different regions of the continent. This was the policy adopted during the Countervailing Duty cases on softwood lumber brought by the U.S. government in 1984 and 1986 which describes industrial timber as having values to the extent that the marketplace reflects it, i.e. the value of the forest products in the market less all the costs incurred in getting it there is the real value of the industrial timber.

Adding Value

By any measure of "value added," Ontario leads the rest of Canada in the forest products sector when measured against the cubic metres of wood consumed. The value of shipments per cubic metre of roundwood production in Ontario in 1988 was $409.47; versus $193.13 in B.C.; $337.14 in Quebec; and $292.31 in New Brunswick. However, Ontario still has a high percentage of commodity products (i.e. 1.2 million tonnes of pulp) which, if converted into higher value items, would create more quality jobs and provide opportunities for both suppliers and technological development.

There is room for further integrating pulp mills with the production of printing and writing papers. Newsprint mills could be converted to higher value-added, roundwood, speciality and

coated papers. Full studies need to be done, particularly regarding the economic impacts of recycling. As someone will be producing these higher value grades with our pulp, it should be Ontarians.

In order to maintain and/or enhance its position as a value-added leader, Ontario requires:

A. Clear Regulations and Less Process

In the 1980's and in this decade the forest products sector has been involved in time-consuming processes--green papers, commissions, studies, reports, environmental assessments (timber and hydro), Round Tables, advisory groups--that have produced virtually no clear policy directs or statements. All of these initiatives represent a huge drain on human and financial resources that could otherwise be directed towards innovative and creative restructuring projects. Firm policies must replace process immediately.

B. The Elimination of Uncertainty

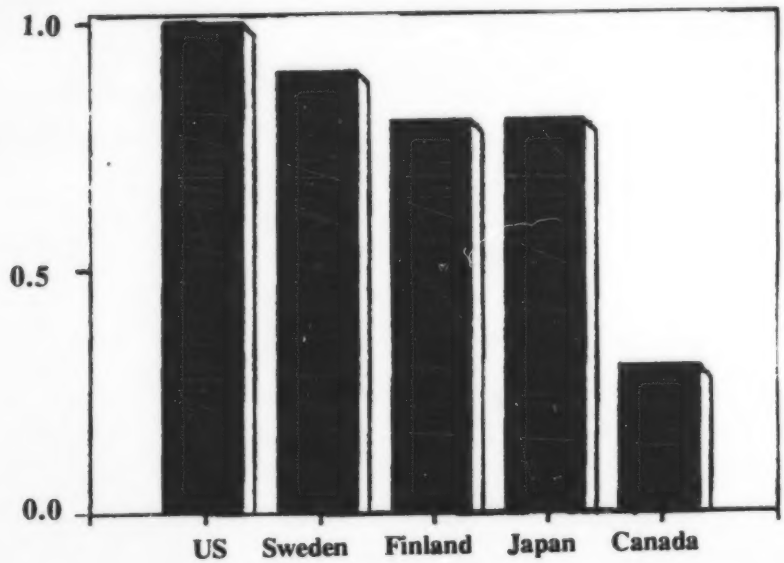
The major factor favourably impacting any industrial activity is stability. Labour, distribution networks, energy and fibre supply have historically served the forest sector well. The stability of forest tenure is vital to the industry's ability to plan and attract capital. With a known fibre base, industries (both large and small), as well as Northern Ontario communities, can plan and structure fully integrated industries that create the highest value-added products. The Forest Management Agreements added this security in the late 1970's and capital investment flowed as a result. A strong commitment to secure tenure is required today.

Although the forest industry is advantaged by lower than average world energy costs, there is every indication that Ontario will lose that position as clear policies about future supplies are not being formulated. In the meantime, large new projects in South America will bring their costs down to the levels in Canada, thus creating further cost advantages for Brazil and Chile.

C. Research and Product Development

The reliance on commodities is reflected in the low level of expenditures in research and development. Low value-added products require little investment in research and development. The graph below illustrates the Canadian industry's position relative to some other countries.

Pulp and Paper Research and Development Expenditures by Country



Source: Pulp and Paper Canada 87:10 (1986)

The demand for paper is expected to grow by 7 million tonnes per year in the 1990's. Stimulated by new colour printing technologies, the fastest growth will be in printing and writing grades which will require ever-improved paper base sheets to accommodate the new fast printing presses. Continued development of coating technology will determine what jurisdiction benefits from the value-added growth.

Product development that will reduce the use of packaging volumes while still delivering fresh, sterile and clean products presents a great opportunity to the forest sector. Paper, as a recyclable product, will replace packaging materials which are harder to reuse. The development process will again lead to higher value-added products.

Product development is equally important in the solid wood sector where new products can be developed from previously classified "non-commercial" species of wood. Fibre characteristics will determine what products will evolve and development work on those characteristics is vital.

D. Quality

North America has seen the erosion of its traditional markets in some products due to a lack of concern for quality amongst some industries. This is not the case in the forest products sector. Labour and management in the forest industry of Ontario have the skills to deliver quality products to the world markets they serve. As value-added products take on a higher profile and replace the traditional commodities, these skills and the commitment to quality must be reinforced and strengthened.

RECOMMENDATIONS

Greater development of value-added forest products must be a priority.

The Province of Ontario should encourage, reward and recognize companies that develop new forest products for the international marketplace.

The Province of Ontario should emphasize and reward quality activities much more than at the present time.

Government should reduce all upward pressure on interest rates so that there will be a decreased cost of capital, thus helping the forest industry to make the necessary investments to remain competitive in the world marketplace.

The concept of "residual value" of industrial timber should be maintained.

A clear policy direction must replace the process which presently is delaying industry investment decisions.

The Province of Ontario should immediately clarify the security of forest tenure for all of those who have lived up to the obligations as outlined in the basic tenure agreement.

Future energy supply and costs should be determined immediately if the industry is to grow and prosper.

Joint industry/government research in Ontario is imperative in all forestry and forest industry sectors if we are to remain competitive.

The development and production of equipment and supplies for the forest industry should be supported and encouraged within the Province of Ontario.

5. Economic Importance of Non-Timber Forest Values

Wildlife expenditures by residents alone contribute more than $2.2 billion annually to the gross domestic product of Ontario (Environment Canada, 1987).

Anglers in Ontario spend more than $2 billion on their recreation every year (OMNR, 1985).

Activities related to wildlife in Ontario generate more than 62,000 jobs.

For every dollar spent on wildlife conservation programs, more than $4.50 is returned to federal and provincial treasuries in tax revenues alone.

From 1986-87 to 1991-92, the provincial budget has grown by almost 60%. During the same period, the Ministry of Natural Resource's budget has increased by 18%, less than the cost of inflation.

RECOMMENDATION: The Province of Ontario should stop undervaluing non-timber forest values such as wildlife and recreation.

6. Forest Audit

As Ontarians in all walks of life are concerned about sustainable forest management, and as those same Ontarians own the vast majority of forests, we recommend an accounting for sustainable development be implemented. The auditing process is not a policy or standard setting process, but a means to determine how well policies or standards have been followed.

What to Audit?

This accounting will take place around measurable and pre-described conventions on public forest lands. It will: 1) measure the resources consumed in producing forest products, and 2) determine the resources preserved and the wealth created for future use.

The accounting would take the form of an audit similar to the Five-Year Reviews of Ontario Forest Management Agreements but expanded to include:

1. All forest inventories. ("Inventory" is defined as "what is on the land base" and would include any resource which has been recorded such as timber, wildlife, cultural and historic sites, fish habitat, etc.)

2. Economic, cultural and social well-being of all immediate communities (employment opportunities and growth, cultural maintenance, health care and social services, recreational opportunities).

3. Treatment success rates.

4. Relative success of the sustainable development program in one Ontario region versus other provincial regions.

Who Will Audit?

It is important that governments, forest advocacy groups, forest products companies (their employees, shareholders and customers), First Nations and all Ontarians know well their forests are being managed.

Even though the audit will be based on a pre-described model, the auditors should have multidisciplinary skills and be chosen for their:

1. Objectivity;
2. Understanding of the total forest ecosystem;
3. Comprehension of social and cultural needs of both the local and wider communities;
4. Ability to account for all capital.

A well structured audit will make a gigantic contribution to the knowledge base needed to make the best determination of uses for our forests. There is a tremendous pent-up "need to know" about the state of sustainable development in Ontario's forests. Audits will make a major contribution to that need.

RECOMMENDATION: In those forest resources where an inventory exists, a periodic audit should be carried out to determine the state of the forest after use and the success of the users in meeting stipulated conditions and regulations.

7. Global Climate Change

The earth's atmosphere keeps the surface temperature 15-33 C warmer than it would otherwise be. This natural greenhouse effect makes life on earth possible. However, emissions resulting from human activities have increased the atmospheric concentration of greenhouse gases such as carbon dioxide, methane, nitrous oxide and chlorofluorocarbons.

Mathematical models have been developed to provide estimates of climatic changes. While many uncertainties plague these models, they predict that with current trends and rates of emissions of greenhouse gases, we will experience an increase of global mean temperatures during the next century. Such warming, if it occurs, could change precipitation levels and water supply patterns, and cause major shifts in vegetation patterns. In forests, insect and disease damage and physical stresses, as well as fire damage, may increase.

While climate change is an international issue, we believe that it could have important consequences for Ontario's environment and society. The forest products industry -- its resources, manufacturing processes and products in use -- can contribute to reducing the risks.

The pulp and paper industry is a significant emitter of carbon dioxide, from both biomass and fossil fuels. The industry has a long-standing commitment and record of reduction of fossil fuel use per tonne of production (from 0.8 t CO_2/t product in 1975 to 0.4 t CO_2/t product in 1988). Further accomplishments can be achieved if all energy sources can be available for use and their real economic, environmental and social costs are considered. As well, intensive research, development and technology transfer efforts need to be made to improve energy efficiency.

Opportunities to reduce and conserve include: the reduction of paper in landfills and incinerators through recycling; the use of solid wood products in permanent structures providing long-term storage of wood carbon; and building healthy urban forests to protect homes and other buildings from the extremes of heat and cold.

RECOMMENDATIONS:

In collaboration with governments, industry should promote research, technology transfer and development to improve energy efficiency.

The Ontario forest sector should increase forest growth through intensive silviculture, afforest treeless areas, improve forest protection, and reforest industrial forest areas immediately after harvest.

The Ontario government and industry must promote the recycling of all forest products.

In construction and building codes, there must be provision for the substitution of energy-intensive materials with wood products.

Municipal governments, with the help of the Province of Ontario, should pay special attention to the development of urban forestry programs as a contribution to efforts to curb the effects of global warming.

8. Harvesting Methods

Clear cutting is a forest management method where the entire stand is removed. The method permits concentrated regeneration on the site, either through planting, sowing or natural regeneration. Clearcuts may range in size from 0.1 hectares to over 1,000 ha. The seed tree and shelterwood systems also allow regeneration of a site over a narrow time period by thinning stands many times over a rotation, leaving high quality trees. The seed tree method requires 50-100 stems/ha be left while the shelterwood method requires many more be left. Once a site is regenerated the seed or sheltering trees are removed.

Selective cutting requires continuous entry into a stand to remove over-mature and poor quality trees. It can be used in conjunction with clearcutting as a method of thinning or in uneven-aged generation where regeneration occurs continuously. Over-mature and poor quality trees are removed periodically. This method requires great skill in tree selection to prevent stand and genetic quality from being degraded (i.e. high-grading). This is what happened in Sweden leading to a ban on individual tree selective logging.

Controversy surrounds the use of clearcutting and questions have been raised about the adequacy of regeneration, the size of clearcuts, and the exclusion of the consideration of other values in choosing this method of harvest. The following is a list of many of the factors to consider when specifying clearcut size, the period before an adjacent area can be felled and whether two, three or more entries into an area are required or whether harvesting should be excluded entirely:

- silvics of the species being harvested;
- current stand and forest age class distribution (eg. all over-mature)
- stand/forest hygiene (i.e. presence of insect or disease, fire damage) and need to salvage
- harvesting economics
- road network requirements
- wood quantity and quality requirements by industry
- topography, slope, aspect
- soil type, quality, nutrients, sensitivity
- need for primitive access to area due to soil sensitivity, wildlife, recreation, etc. and thus need for winter logging or other special access (eg. barge)
- wildlife needs for habitat and effect of forest fragmentation
- degree and type of recreational use
- presence of indigenous species (plant and animal) and their habitat requirements
- possible presence of rare, threatened and endangered species (plant and animal) and their habitat requirements
- maintaining or improving water quality
- maintaining or improving species (plant and animal) diversity
- presence of historically or culturally sensitive areas, or otherwise special forest conditions (eg. old growth)

Harvest methods should be devised to achieve the objective of integrated forest management and with consideration of research findings regarding the effects of clearcutting on forest ecosystems.

RECOMMENDATIONS:

Consistent with the factors listed above and the goal of protection and enhancement of all forest values:

1. **The Province of Ontario, together with all other forest users, should establish the range of acceptable clearcut sizes to be used in the harvesting of Ontario forests.**

2. **Forest users should utilize, where appropriate, alternative methods of harvesting, including the seed tree, shelterwood and selection systems.**

9. Inventories and Data Base

At the present time there is a dearth of information available to decision-makers with regard to timber management planning. The Forest Resource Inventory (FRI) is the major data base available. It provides useful direction for province-wide planning, but lacks the detail required to support site-specific planning or planning for "non-timber" values. In order to ensure that comprehensive forest management planning can occur, more detailed information and data bases will be required. Such data bases, however, are difficult and expensive to obtain and maintain. If more complete floral and fauna inventories, as well as cultural, spiritual and historic sites, are to be compiled, then some form of partnership of government, private industry, aboriginal groups and other forest users (anglers and hunters, canoe enthusiasts, naturalists, etc.) needs to be established in order to provide assistance either through funds or in kind. Examples of successful joint ventures were the Breeding Bird Atlas and the Mammal Atlas.

Improved data is also required on the success of forest regeneration, both natural and artificial. The impacts of such factors as site types, harvest method, previous forest stand composition, soil characteristics, moisture regime and post-harvest treatment need to be assessed in light of the success of regeneration treatments. There is also a need to determine what the new forest should look like. "Success" to some observers might be a return to pioneer species such as birch and aspen, with the various stages of succession ultimately resulting in a mature mixed forest. To others, "success" might be the rapid establishment of a high fibre-producing plantation resulting in the earlier production of harvest-ready material.

In 1989, Ontario started the process of digitizing the FRI maps. It will take some time but ultimately all the FRI maps of the province will be in a digital format. Having the map data in this form has made it possible to use a technology called Geographic Information Systems (GIS).

GIS technology has enable resource managers to hold the forest up and view it from a number of different angles. The map would be capable of combining information on just two subjects, for instance wildlife habitat and tourism values, or it could combine information about terrain with soil information, forest stand information, and information about wildlife habitat, floral associations, tourism concerns and, for good measure, heritage values.

That is an example of what can be done with existing information. Resource managers are just beginning to focus on information needed to move into ecosystem management; however, it is possible to get an idea about ecosystem complexity by manipulating existing data. This technology could have wider implications with regard to Ontario's role in export markets.

The present audit being undertaken by an independent panel for the Ministry of Natural Resources will provide some answers to "how well the garden is growing" in previously harvested areas of the boreal forest. The experience of this audit should also provide guidance for future regeneration efforts.

Armed with better information and data, decision-makers will be in a much improved position with regard to developing silvicultural prescriptions for the forests of Ontario. Such silvicultural prescriptions would be designed to enhance a wide variety of forest uses as well as timber production. Proper allowance for old growth, wildlife habitat, canoe routes, aboriginal heritage, rare or endangered species, etc., could then be successfully included in comprehensive timber management plans.

RECOMMENDATIONS:

In order to compile more complete data bases on flora and fauna, as well as cultural, spiritual and historic sites, some form of partnership of government, private industry, aboriginal groups and other forest users should be established to provide assistance either through funds or in kind.

A more complete data base on the success of forest regeneration, both natural and artificial, should be compiled taking into account factors such as site type, harvest method, previous forest stand composition, soil characteristics, moisture regime and post-harvest treatment.

The present independent audit being carried out on the success of regeneration efforts in Ontario should distinguish between regeneration on FMA lands and on Crown Management Units.

The Province of Ontario should improve its data base through increased use of Geographic Information Systems.

10. Pest Management

The use of pesticides to manage forest pests, including both herbicides and insecticides, in forest management is a controversial topic. Management of non-crop vegetation that competes with young trees for essential light, water and nutrients is used for successful reforestation. Insect management techniques are used when the forest contains a particular value, and that value is threatened by a damaging insect population. However, there was a wide spectrum of views among the various members of the Task Force on the use of chemical pesticides. The span of opinion ranged from:

1. an immediate ban on the use of chemical pesticides in forest management; to

2. a stepwise reduction of the use of chemical pesticides, with an ultimate goal of virtual elimination; to

3. continued use of chemicals as a forest management tool.

The Task Force was, however, in agreement that it should strongly encourage research into the development of safe, effective and efficient alternatives to the use of chemical herbicides and insecticides.

RECOMMENDATION: A group should be established to develop a series of achievable targets and timetables in order to help ensure the delivery of possible alternatives to chemical pesticides.

The new approaches to vegetation and insect management developed by this group should be applied in order to achieve a stepwise reduction of the use of chemicals in the forest.

11. Private Land Forests

With only 15% of the productive forest land base, private forests make a substantial contribution to the economic, social and environmental health of Ontario. Private forests currently supply

19% of the industrial wood used in the province. Moreover, the forests in southern Ontario, the majority of which are in private ownership, support on a provincial basis 80% of all outdoor recreation and are key to the provision of environmental benefits such as clean air and water, rich diverse habitats, productive souls and attractive landscapes.

These important values enjoyed by people are at risk. Intense pressure from urban and recreational development has resulted in the rapid depletion and fragmentation of woodlands, particularly in southwestern and south central Ontario. For example, between 1961 and 1986 in Essex County, the area of farm woodlots decreased by 73%.

Environmental, social and economic benefits of woodlands extend beyond property boundaries and are available to the community, not only to the landowner. Therefore, the government, along with landowners and the community, share in the responsibility for ensuring sustainable forestry on private land is facilitated.

The Task Force reviewed provincial policy and noted that Ontario Ministry of Natural Resources has recently announced a major restructuring of its private land forest program.

RECOMMENDATION: The Province of Ontario should implement and support the new Private Woodlands Strategy, in particular:

1. **The initiation of a major education and awareness initiative to establish skilled landowners and so persuade them to undertake management activities on their own;**

2. **The initiative to co-ordinate and consolidate program resources and delivery by all agencies to provide landowners with "one window access" to programs and services;**

3. **The initiation of programs to involve the community as a partner in providing for the management of private forest lands.**

12. Professional Education

Today's professional foresters have to know the basics of forest biology and silviculture, but increasingly they must also be effective problem solvers and competent communicators. They must have a broad appreciation of society's values and needs and an understanding of how forestry connects with other global resource issues.

Traditional forms of forest management and tenure are changing and society is becoming more aware of, and involved in decisions affecting a broad array of forest values. Forestry curricula and instructional methods must provide students with the opportunity to acquire the necessary

skills and knowledge to meet these new challenges. Considering the limited time (four years) available to students in professional undergraduate programs, continuing education must be seen as an important avenue for skills development and updating of basic knowledge.

RECOMMENDATIONS:

Aboriginal students should be encouraged to undertake post-secondary school forestry education by establishing one-year science access transition programs, including cultural support services, at the university level. Such programs would be designed to help prepare aboriginal students for admission into forestry or related science fields.

The use of continuing education programs by professional and technical foresters should be promoted and a mechanism for collating and disseminating, on a regular basis, information concerning such programs should be established.

The education and training of professional and technical foresters should take into account all of the components of forest land including ecological, social and cultural values and traditional aboriginal ecological knowledge and management systems.

Forestry curricula should be redesigned so that problem solving, conflict resolution, interpersonal, consultation and communication skills, as well as scientific skills, are developed thereby producing a healthy balance of scientific inquirers and management practitioners.

Subjects such as codes of ethics and standards of practice should be integrated into professional and technical forestry curricula including continuing education programs.

13. Protected Areas

Recognizing that there are increasing demands on a limited land base, the Brundtland Commission called for 12% of land area to be set aside as "protected spaces"--areas where natural processes could continue. The Commission stated that the protection of species and ecosystems was an "indispensable prerequisite" for sustainable development, and that a tripling of the approximately 4% of the earth's land contained within protected areas is necessary to maintain representative samples of the world's ecosystems. The Canadian government has recently adopted the 12% figure as a national goal for wildlands or endangered spaces protection, as have the provinces of Manitoba and Saskatechewan and the Yukon Territory.

In Ontario, 5.5% of the lands and water are designated as "protected", using a variety of mechanisms, including wilderness, natural area, recreational and waterway parks, and "Areas of Natural and Scientific Interest" (ANSIs). According to government data, existing protected areas represent only 32 of Ontario's 65 natural areas (known as "site districts").

While forestry practices, if sustainable, should be of a standard that respects ecological values on all forest lands, including those allocated for industrial use, the Task Force members agreed that there was also a need for forest areas free from industrial use.

One of the foremost reasons for establishing "wild areas" or protected spaces is to have remain intact a representative range of the province's biological diversity. While the benefits of protecting the integrity of a wide range of ecosystems are many and varied, they include the maintenance of gene pools for both animal and plant life, and the preservation of a natural laboratory for scientific study. Wilderness also provides undisturbed wildlife habitat, fisheries and watershed protection and recreation opportunities. Less tangibly for many the wild forest, and the knowledge of its continuance, is interwoven with a feeling of emotional and spiritual wellbeing and a sense of cultural identification which is tied strongly to a sense of place and land.

Establishing guidelines for the protection of wild spaces and their representative ecosystems can be problematic at times, given some of the conflicting priorities for the use and future of forest areas. However, as the list of options shrink with the area of forest land not yet put to industrial use, so increases the urgency of taking effective action for the protection of wild spaces.

RECOMMENDATION: The selection process for representative wild areas should be completed and protection mechanisms for these areas should be established, particularly give that current and future development could result in the loss of important candidate areas.

14. Protecting Forest Sector Employment and Sustainability of Harvest Levels

The Task Force recognizes the importance of the forestry sector to the economy of Ontario and the need to protect forest sector employment. However, there is public concern that current levels of harvest in some regions of Ontario are not sustainable. Mill closures have been a facet of the history of the industry as wood supply in various areas became depleted. In order to prevent such closures, planning and management at the provincial level is required.

While production of fibre of the quantity, quality and type sufficient to meet industrial needs is necessary for job protection, production that exceeds the sustainable capacity of the forest will lead to an anticipated decline in wood supply and falling employment levels.

It is therefore necessary for the MNR and industry to make a commitment to harvest at a sustainable level. To determine whether the current level is sustainable will require a comprehensive examination of current and projected wood supply, and the employment effects of movement, should it be required, to a lower but sustainable level of harvest. This examination should include both long-term and short-term employment and investment effects of continuing current trends in harvest levels, and of moving to a sustainable level.

It may be desirable to concentrate high yield timber production in some areas of production forest to satisfy industry demands. In other areas, a mix of silvicultural prescriptions and uncut natural forest will be required to protect biodiversity and animal and plant ecosystems.

RECOMMENDATIONS:

While respecting present commitments, the provincial government should develop a rating system that weighs the granting of cutting licenses in favour of local mills and value added manufacturers, and which discourages the transfer of licenses and allocations from a local mill to a distant one.

The Province of Ontario and industry must make a commitment to harvest a long-term sustainable level. A comprehensive examination of current and projected wood supplies is needed to determine whether current harvest levels are sustainable. The employment effects of alternatives sustainable levels of harvest must be determined. This examination should include both long and short term employment and investment effects of continuing current trends in harvest levels and alternative sustainable levels.

15. Public Information and Education

Given that there is an ever-increasing desire for more information about the forests of Ontario and given that there is a considerable amount of biased or mis-information available, it is

recommended that a comprehensive, co-operative information project be initiated. With input from government, industry, labour, environmental groups, aboriginal groups, interest groups and academia, a series of factually-based publications regarding the state of Ontario's forests would be extremely useful in informing the general public about the environment, the multiple use of the forest, the forest as a key segment in the economy, and the long-term requirement of the forest as a source of biodiversity. Such publications would have to be produced in a timely fashion, be readily comprehensible, and updated at regular intervals.

It is also recommended that the Ministries of Natural Resources, Environment and Education upgrade their efforts in building forest-related issues into the curriculum of Ontario's schools. It is imperative that children, through the education system become aware of forest values (from biodiversity to fibre production) in order to better appreciate and understand the importance of the forest and the systems it supports.

The Ministry of Natural Resources should also continue its joint venture with the Ontario Forestry Association ("Trees Ontario") to increase awareness with regard to forestry issues and to increase, where possible, local involvement in the reforestation of suitable lands.

The Ontario Round Table on the Environment and Economy should petition publicly funded television at both the national (CBC) and provincial (TV Ontario) levels to provide balanced programming on forest-related issues to provide adequate opportunity for the accurate representation of various viewpoints.

In light of the current international publicity concerning Canada's forestry practices, there is a need for Ontario to convey what it is doing in forest management.

RECOMMENDATIONS:

A comprehensive, co-operative information project on the state of Ontario's forests should be carried out with input from government, industry, aboriginal groups, interest groups and academia. Publications should cover the environment, multiple use of the forest, the economic value of the forest, and the long term requirement of the forest as a source of biodiversity, and should be timely, readily comprehensible and updated at regular intervals.

The Ministries of Natural Resources, Environment and Education should upgrade their efforts in building forest-related issues into the curriculum of Ontario's schools.

The Ministry of Natural Resources should continue its joint venture with the Ontario Forestry Association ("Trees Ontario").

The Ontario Round Table on the Environment and the Economy should petition publicly funded television at both the national and provincial levels to provide balanced programming on forestry-related issues.

The Province of Ontario should convey what it is doing in forest management to the international community.

16. Pulp and Paper Industrial Effluent

Over the past two years, there has been considerable focus and controversy on the quality and effects of effluents from the pulp and paper industry. The presence of dioxins and chlorinated organics in effluents, incorporated with effluent toxicity and the bleaching process, have been the major issues in this ongoing debate.

Many provincial governments, along with the federal government, have passed or are in the process of passing new legislation specifically addressing the environmental issues of the industry. The present status of these issues are as follows.

Toxicity

Biological treatment systems are available that can completely remove acute toxicity (as measured by a standardized fish survival test) from all pulp and paper mill effluents. There are a growing number of mills that are adopting this technology.

Dioxins

Since dioxins were found to be in mill effluents, industry has responded very quickly, through research and developing, in developing process changes and treatment techniques to reduce significantly concentrations. Total estimated discharge quantities of 150 grams per year have now been reduced to 75 grams with 10 grams per year achievable by the end of 1992. Although some of the less toxic isomers are still present, even in the non-bleaching process, technology is or will be available to reduce the most toxic dioxins to non-detectable levels.

Chlorinated Organics

The kraft process in the industry has historically used chlorine as its medium for bleaching. The chlorine, however, reacts with lignin in the brown, unbleached pulp to form chlorinated organics which have been found at elevated levels in the effluent. As a result, the chlorinated organics are discharged into the environment and are perceived to cause effects to the ecosystem. The industry has reacted by investing significant capital to install chlorine dioxide generators to replace the elemental chlorine in the process with chlorine dioxide. In addition, other

technologies, such as extended delignification, oxygen delignification and secondary treatment have been utilized to reduce significantly chlorinated organics in effluent. With the technologies available now and in the future, the Ontario pulp and paper industry intents to achieve a level of 1.5 kg/AOX/tonne over the next five years. (AOX refers to the analytical technique used to measure organochlorine substances.)

Environmental groups are recommending that a ban be placed on the use of chlorine in the bleaching process. Some environmental groups further oppose the use of chlorine dioxide. However, there is no alternative process that can be used by the industry to produce pulp with the required qualities, i.e. strength, cleanliness and brightness, without the use of chlorine dioxide. Other processes using ozone, enzymes, peroxide, lignox, etc. are actively being researched but are not acceptable for full production.

Bleaching

Considerable discussion is ongoing on the necessity of bleaching. It is quite apparent that the market does not require the degree of brightness that is demanded today. On the other hand, it must be understood that bleaching is used not only for brightness. Other properties of the fibre, such as strength, opacity, cleanliness and odour, are also enhanced. In fact, it is necessary to achieve these properties through the bleaching process in order to meet the requirements of the converting industry and the end use product. Chlorinated organics are the only parameter of concern related to bleaching and, as stated before, technologies have been and are being developed to address the issue.

RECOMMENDATIONS:

All pulp and paper mills should have primary and secondary treatment systems.

All pulp and paper mill effluents should be non-toxic.

Dioxins should be non-detectable in pulp and paper mill effluents.

The pulp and paper industry should support efforts to achieve virtual elimination of persistent, bioaccumulative and toxic materials in mill effluents through pollution prevention and treatment.

The pulp and paper industry should actively support research into the elimination or treatment of chlorinated organics and the "sunsetting" of chemicals should be done through scientific processes and in light of society's needs.

17. Research

The Task Force identified numerous important issues relating to forests and forestry in which decision-making is hampered by a lack of information. Priority in research, in the view of Task Force members, should be given to the subject areas listed below, in which there is currently a dearth of Ontario-based information.

Research design should occur with all parties concerned within the context of consideration of the effects of global warming and the goal of protecting biodiversity in Ontario forests. The areas which have been identified are:

1) The environmental effects of full-tree logging in Ontario forests.

2) The environmental and ecological effects of various types and combinations of silvicultural practices including:
   - large area clearcutting followed by each of artificial and natural regeneration;
   - small area clearcutting followed by each of artificial and natural regeneration;
   - alternatives to clearcutting for harvesting.

   The effects considered should include aquatic and terrestrial effects and measures of results of regeneration from the various practices.

3) The environmental effects of pesticide use (both herbicides and chemical and biological insecticides) in Ontario forests.

4) Economic issues, particularly procedures for full-cost accounting in forestry, and possibilities for future increases in the value added to Ontario forest products.

5) Techniques and tools to facilitate the integration of non-timber values with timber management activities.

6) Watershed-level and cumulative environmental impacts associated with timber management activities.

RECOMMENDATION: The Province and industry should adopt the above-named areas as research priorities and this research should be conducted in the context of consideration of the effects of global warming and the protection of biodiversity.

18. Solid Waste Management

Paper and cardboard products make up the majority of material going to municipal landfills. Diversion from landfill would help alleviate Ontario's impending "Garbage Crisis." Ontario has the largest concentration of paper and paperboard mills in Canada, whose major, if not sole, source of fibre is derived from the collection of discarded paper and paperboard. In 1989 the total consumption of waste paper by recycling mills located in the province reached 973,000 tonnes.

Collection

While great progress has been made in expanding the collection of waste paper in Ontario, it remains that 30% of the waste paper required by Ontario mills is imported from outside Canada. This suggests that, in spite of the steady increase in waste paper consumption in Ontario, there is a capacity amongst the presently operating mills to absorb more. The announced construction of several new recycling plants will demand more waste paper from Ontario sources or from imports.

Sludge Disposal

A mill processing waste paper creates its own significant waste problems. Between 15 and 25% of the paper being recycled will be lost in the form of sludge. This sludge is made up of inks, clays and fillers; in a 400-tonne-per-day plant, there can be anywhere between 60 and 100 tonnes of solid waste requiring disposal.

Definitions

Although the pulp and paper industry has been recycling for centuries, the activity has now become very visible. As a result, various political jurisdictions around the world are creating symbols (such as "eco labels") to depict the recycled nature of the product. However, the definition of "recycled" differs between those jurisdictions complicating investment decisions and marketing strategies.

RECOMMENDATIONS:

The collection of waste paper should be encouraged until all practicable volumes are removed from the waste stream and that the Province of Ontario and industry promote the recycling of all forest products consumed in Ontario.

Continuing consultation between the Province of Ontario, advocacy groups and the industry should take place to ensure that the recycling effort moves forward at a reasonable and sustainable pace.

The Province and industry should implement a broad education program to help enlist public support to ensure that the materials for recycling are properly classified.

Sludge disposal sites and/or alternate methods of disposal should be made available quickly by government authorities so recycling investment decisions can be made.

All governments should avoid measures that will impede, internationally or otherwise, the free flow of recyclable materials or recycled products, across provincial or international borders.

In developing recycling policies and regulations, the Province of Ontario should protect workers in forest-based industries of Ontario from any detrimental impacts.

19. Tenure

The forests of Ontario belong to the people of Ontario. The government, as the people's agent, regulates forest practices by legislative action through the Crown Timber Act, forest regulations and by decree through the issuing of various guidelines and directives.

Tenure provides the structure to administer compliance with government objectives, and the licensing arrangements that define Rights and Responsibilities over a defined area and time.

There are many forms of tenure in Ontario: District Cutting Licenses, Third Party Licenses, Short and Long Term Licenses (1-21 years) and Forest Management Agreements. These many forms allow a flexibility to adapt to specific local requirements and needs.

The newest form of tenure is the Forest Management Agreements (circa 1980) which have the following characteristics:

1. Integration of harvesting and reforestation.

2. Operating decisions reflecting the reforestation responsibilities of the FMA holder.

3. Renewal of the twenty-year agreements (in 5 year increments) as long as the FMA holder meets clearly-defined performance standards.

4. Five-year reviews in the form of audits.

5. Plan amendment procedures that are incorporated should a legitimate concern arise. That plan amendment itself is subject to public scrutiny and government approval.

6. Obligations to provide for multiple use and integrated resource management as part of the overall planning and implementation of forest practices and activities.

7. The Province of Ontario always maintains ultimate responsibility and authority for public forest lands.

8. They can respond quickly and are flexible enough to meet changing society needs.

9. Volume of timber in excess of the FMA holder's needs are made available to other enterprises, thereby ensuring that areas scheduled for cutting are harvested and renewed in a fashion that will contribute to the overall economy of the Province.

10. Failure to harvest the prescribed areas leads to the payment of liquidated damages to the Crown by the FMA holder.

Forests and forest management activities differ from most other areas of endeavour in society due to their need for a long-term planning horizon. This is occasioned because:

a) A typical Ontario forest has a rotation of 70-120 years;

b) The forest industry is capital intensive and the huge investments require the certainty of fibre supply for many years;

c) Northern Ontario towns, cities and municipalities need to know that the fibre supply which sustains the forest industry in their communities (which in turn sustains the greatest part of their social infrastructure) is secure and will sustain their community forever.

d) Comprehensive forest management programs containing provision for sound wildlife management, biodiversity concerns, ecosystem management, recreational values as well as timber management, require dedicated research in which industry should be encouraged to participate. Only if the industry has some assurance of tenure over a long period can it be expected to make resources available to carry out adequate research.

The benefits of FMAs are evident throughout Ontario:

1. Secure tenure encouraged billions of dollars of capital investment throughout the 1980's.

2. A spirit of co-operativeness between government, industry and academia led to a higher level of concern for renewal which translated into significant increases in treated areas.

3. Previously "Not Sufficiently Regenerated" areas of forest land were subjected to silvicultural renewal.

4. Northern communities dependent upon a long-term fibre supply have seen industry and government invest in the forest and the capital infrastructures to insure their future.

Licensing procedures are being studied continually in Ontario and other provinces, as the search goes on for improved resource management tenure systems. The recently announced Ontario Community Forests initiative may, on a trial basis, generate a system that will place tenure responsibilities for specific land areas in the hands of a group of citizens. The Community Forest could involve a Crown Management Unit with forest-generated revenues flowing back to that tract of land to fund forest regeneration. Thus the forest land base on which the adjacent communities rely for their economic wellbeing is enhanced and perpetuated. No matter what form the "Community Forest" takes, it must contain some type of long-term agreement for stewardship for the forest area.

Future arrangements with companies must propose more secure area-based tenures that will encourage private expenditures on the intensive forest management practices necessary to increase timber supplies and enhance other values of the forest land. The tendency will be to shift from a system that limps along on reluctant handouts from public treasuries, to tenures that are based on forest stewardship and effective public involvement.

RECOMMENDATIONS:

All systems of tenure should provide for:

a) flexibility to meet changing societal needs;
b) mechanisms for public scrutiny and meaningful input at all planning stages;
c) performance audits;
d) the inclusion of clear obligations (financial and operative;
e) healthy forests in perpetuity.

It should be recognized that a secure system of tenure is vital if industry is to stay competitive in world markets and modernize its assets.

New forms of tenure, such as the recently announced Ontario Community Forests initiative, should be encouraged on a selective trial basis.

20. Worker Protection and Involvement

More effective worker involvement and leadership in the forest sector is essential if the forest industry is going to deal successfully with the economic and environmental problems and uncertainty it now faces. It is the people who live in communities in forest areas, especially forest sector workers, who bear the major consequences of mill closures and dwindling wood supplies and who could suffer from the costs of cleaning up environmental problems and meeting new environmental standards. In setting new environmental standards, government must ensure that the enforcement of such standards does not detrimentally affect workers and communities. The true costs of production, including the full cost of using the environment, should be reflected in the cost of the commodity produced.

RECOMMENDATIONS:

The forest industry should establish joint environmental committees in every workplace in concert with supportive policy administered by the Departments of Labour and the Environment.

The Province of Ontario should ensure the protection of workers from detrimental effects, such as job loss, resulting from improved environmental standards.

The job security of any worker who reports an environmentally hazardous situation should not be jeopardized.

The Forest Sector Task Force recommends to the Round Table that in its Preamble, it include a statement to the effect that:

Job losses due to the enforcement of environmental standards must be addressed in all sectors with consideration of the following:

1. **The establishment of a fund that would provide grants and loans to businesses willing to invest and provide jobs in Ontario, provide incentives to increase research and development, take part in joint venture and invest directly in local jobs.**

2. **Worker participation in decision-making regarding changes in environmental standards.**

APPENDIX I - INVITED SPEAKERS

Harry Bombay, National Aboriginal Forestry Association, on aboriginal involvement in forestry

John Cary, Policy Branch, Ministry of Natural Resources, on private land forestry

Peter Duinker, Forest Management and Policy, School of Forestry, Lakehead University, on clearcutting, global warming and old growth forests

Gary Gallon, Environmental Economics International, on recycling

Paul Muldoon, Pollution Probe, on industrial pollution

Reino Pulkki, School of Forestry, Lakehead University, on clearcutting

Norm Richards, Policy Branch, Ministry of Natural Resources, on provincial park system

Bob Rosehart, Chief Negotiator, Province of Ontario, and President, Lakehead University, on Nishnawbe-Aski self-government negotiations

APPENDIX II - ABORIGINAL ISSUES IN FORESTRY

Aboriginal people were the first inhabitants of Ontario and were dependent on Ontario's forest resources for their survival. They developed a unique culture based on respect for the land and forest resources which have provided them with "food, shelter, fuel, clothing, tools, transportation, medicines and spiritual and emotional security" (Task Force on Native Forestry, 1990). Today many aboriginal groups insist that they have not ceded title to land they traditionally occupied and that they were self-governing, independent peoples. They seek to claim land, the right to be self-governing, the protection of their traditional culture, and the upholding of treaties. There are parallels between sustainable development and aboriginal philosophy which advocates taking care of the land for future generations.

The Canadian Constitution under Section 35(a) recognizes and affirms "existing aboriginal and treaty rights of the aboriginal peoples of Canada." Although these rights are only now being defined by the Supreme Court of Canada, the Constitution provides a basis for forging a new relationship between the federal and provincial governments and aboriginal people. The Province of Ontario has taken the initiative in developing a new relationship with aboriginal people. With the Golden Lake Band, the provincial government has recognized aboriginal rights to hunt and fish within Algonquin Provincial Park. With the Bear Island Band of Temagami, the province has entered a joint stewardship agreement to co-manage forest resources on part of the land under claim by the Teme-augama Anishnabai. With Nishnawbe-Aski Nation, the province has undertaken to negotiate a self-government agreement which will cover lands and resources north of the 50th parallel. This is a good beginning.

The following areas have been identified by the Task Force on Native Forestry established in British Columbia in 1990 and the Forest Sector Task Force and Native Circle of the Ontario Round Table.

Land Claims

An important issue for Ontario's aboriginal people is to settle expeditiously outstanding land claims. The Native Circle of the Ontario Round Table takes the position that settlement of land claims should be addressed prior to or in conjunction with decisions about the use of Crown land, including the establishment of parks.

Forest Tenure

Most reserves in Ontario are too small to support viable forestry operations and off-reserve Crown land in Ontario is managed by the Province and large industrial holders under Forest Management Agreements. This limits opportunities for aboriginal communities to develop self-sufficient forestry enterprises. Examples of aboriginal-owned forest businesses like Kiashke River Development Corporation of Gull Bay, who operate under a third party agreement on an

existing FMA, are too few. The forest industry should be encouraged to develop more tenure-sharing arrangements, such as third party agreements, and the province should be encouraged to diversify its licensing procedures so that more of the forest resource is available to a wider variety of users, including aboriginal communities. Co-management agreements and community forests are examples of some different forms of tenure.

Education and Training

Professional, technical and management skills are needed to encourage aboriginal participation in forestry. Universities and colleges in the province should be encouraged to include in their forestry curriculum content that recognizes the need for professional development and provides cultural support (such as counselling) to aboriginal students enroled in these programs. An example of such a program is the Native Resources Technician Program at Sault College where distance education technology allows students to remain in their communities for a good part of the course. Industry should be also be encouraged to provide cultural support in on-the-job training programs.

Economic Development

Aboriginal communities want to build economic self-sufficiency and there are numerous ways to encourage such economic development. Supporting aboriginal communities in establishing and bidding for silvicultural contracts in their traditional territories, affirmative action hiring policies by both government and industry in conjunction with unions, removing barriers to obtaining financing to allow easier access to capital, and the encouragement of joint ventures are some of the means to be tried.

Integrated Resource Management

Traditional aboriginal resource use has been varied with the forest viewed as a whole. Traditional activities of hunting, fishing and gathering require the maintenance of forest habitat and biodiversity. This traditional knowledge should be incorporated into the forest management planning process. One way of doing this is to carry out an inventory of special aboriginal sites, both cultural and sacred and/or encourage the practice of traditional land use mapping. This information should be readily available to all parties involved in resource planning. It is important that forest management planning take into account traditional knowledge, encourage aboriginal participation in planning, protect all uses of the forest and explore the possibility of co-management of resources in traditional aboriginal lands.